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## ***Skill Procedures:***

### ***Intraosseous Infusion***

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#### ***I. Usage***

1. The techniques used in intraosseous (IO) infusion are not new. They were first discussed in 1922. Recently they have been brought back to use in the emergency setting. While primarily for use on pediatric patients in which intravenous access is not possible, the same technique can be used on adults. Permission to use intraosseous infusion must be obtained from Medical Control.

#### ***II. Indications***

1. Pediatric or adult patient in cardiac arrest, and IV access is not obtainable.
2. Pediatric patient developing hypovolemic shock.

#### ***III. Contraindications***



1. A fractured extremity cannot be used.

#### ***IV. Procedural Protocols***

1. The insertion site of the IO catheter is located one finger width below the tibial tuberosity either midline or slightly medial to the midline.
2. Prepare the site with a betadine solution.
3. Insert the needle perpendicular to the skin.
  - A. Use a twisting motion until you feel a sudden decrease in resistance.
4. Remove the stylet and confirm placement by aspirating blood and bone marrow.
5. Attach IV and begin infusion of fluid.
6. Secure IO needle and tubing to the skin.

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#### **V. Notes**

1. If infiltration occurs, do not reuse the same bone.
2. Complications are rare, but include
  - A. Tibial fracture, usually caused by selecting a needle that is too large.
  - B. Subperiosteal infusion due to improper placement.
  - C. Fat embolism.
  - D. Sepsis.
  - E. Marrow damage.
  - F. Osteomyelitis.